



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/585,329	06/02/2000	Martin Hollis	723-749	7163

23117 7590 07/29/2003

NIXON & VANDERHYE, PC  
1100 N GLEBE ROAD  
8TH FLOOR  
ARLINGTON, VA 22201-4714

EXAMINER
----------

GOOD JOHNSON, MOTILEWA

ART UNIT	PAPER NUMBER
----------	--------------

2672

DATE MAILED: 07/29/2003

11

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/585,329

Applicant(s)

HOLLIS ET AL.

Examiner

Motilewa A. Good-Johnson

Art Unit

2672

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 24 March 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,2,5-14 and 16-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,5-14 and 16-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4, 10.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

**DETAILED ACTION**

1. This office action is responsive to the following communications: Application, filed 06/02/2000; IDS, paper #4, filed 02/13/2001; IDS, paper #5, filed 09/05/2001; IDS, paper #6, filed 06/06/2001; Amendment A, filed 03/24/2003.
2. Claims 1, 2, 5-14 and 16-22 are pending in this application. Claims 3, 4, 15 and 23 have been canceled. Claims 1, 5, 8, 14 and 18 have been amended.
3. The present title of the application is "Variable Bit Field Encoding" (as originally filed).

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1, 2, 5-16, 18, and 20-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morein, U.S. Patent Number 6,452,602 B1, "Method and Apparatus for Storing Compressed Data", class 345/555, 09/17/2002, filed 12/13/1999.

As per independent claim 1, a stored data element format representing a portion of an image . . . comprising: a multi-bit alpha component filed . . . and a portion setting forth at least one RGB color component . . . portion having a first length is said multi-bit

alpha component field is present and having a second length greater than said first length if said multi-bit alpha component field is not present. (Morein discloses storing data blocks in a compressed format in memory where the compression scheme varies and further discloses the data can be broken up and compressed into variable and fixed length schemes and applied to Z information, color data or other data for display frame generation, col. 2, lines 14-57)

However, it is noted that Morein fails to disclose a first length if an alpha component is present and a second length if the alpha component is not present. Morein discloses that each data block contains a descriptor data set in which a description memory stores the uncompressed format for data required in an uncompressed format, col. 2, lines 34-57. It would have been obvious to one of ordinary skill in the art at the time of the invention to include in the data block structure of compressed fixed and variable length compression schemes as disclosed in Morein, the compression of the alpha component for color to maximize efficiency of the memory usage by fetching color components directly from memory without compression.

With respect to dependent claim 2, further including a flag that indicates whether said multi-bit alpha component field is present in a particular instance of said format. (Morein discloses a data descriptor set corresponding to each group stored in memory that indicates the compression scheme and size of the compressed data set, col. 2, lines 21-31)

As per independent claim 5, a computer graphics system including a storage device storing plural data elements corresponding to color image elements, said data

elements each setting forth RGB color information and an indicator field indicating whether or not . . . multi-bit field encoding semi-transparency. . (Morein discloses storing data blocks in a compressed format in memory where the compression scheme varies and further discloses the data can be broken up and compressed into variable and fixed length schemes and applied to Z information, color data or other data for display frame generation, col. 2, lines 14-57)

However, it is noted that Morein fails to disclose encoding semi-transparency. Morein discloses a data descriptor set corresponding to each group stored in memory that indicates the compression scheme and size of the compressed data set, col. 2, lines 21-31. It would have been obvious to one of ordinary skill in the art at the time of the invention to include in the compression and decompression scheme of color data and other data relating to display frame generation as disclosed in Morein, encoding or compressing transparency because transparency data is known in the art as being related to display frame generation.

With respect to dependent claim 6, indicator field comprises a single bit flag. (Morein discloses descriptor is used to indicate the size of the compressed data block in a group, col. 2, lines 25-47)

With respect to dependent claim 7, ones of said plural data elements that do not encode semi-transparency use the space . . . to encode said color information at higher resolution. (Morein discloses dependent on the number of bits used to encode each compression descriptor a variety of compression schemes and variable data set sizes may be supported, col. 6, lines 65 – col. 7, line 15)

With respect to dependent claim 8, color information encodes each of the three primary colors red, green and blue with the same precision. (Morein discloses a fixed size used to store eight 32-bit colors for each texel, col. 7, lines 16-27)

With respect to dependent claim 9, data element has a 16-bit length, and said indicator field comprises a single bit. (Morein discloses in the illustration of figure 2, the compression scheme may have a size A4 and A4 represents one of the potential sizes corresponding to compression scheme A, col. 5, lines 29-49)

With respect to dependent claim 10, multi-bit field consists of three bits. (Morein discloses the encoded compression descriptor may include K bits, col. 9, lines 3-24)

With respect to dependent claim 11, a data converter coupled to said storage device, said data converter converting between said multi-bit semi-transparency encoding and higher resolution alpha information. (However, it is noted that Morein fails to disclose encoding semi-transparency. Morein discloses dependent on the number of bits used to encode each compression descriptor a variety of compression schemes and variable data set sizes may be supported, col. 6, lines 65 – col. 7, line 15. It would have been obvious to one of ordinary skill in the art at the time of the invention to include in the various compression schemes and data set sized transparent data, because Morein discloses the various compression schemes may be used for data which relate to display frame generation and transparent data is data known to be related to display frame generation)

With respect to dependent claims 12 and 13, data converter quantizes or dequantizes said higher resolution alpha information in equal steps; eight equal steps.

(Morein discloses the compression scheme of each data block produces a data set corresponding to that data block that is of a size that is included in a set of predetermined sizes corresponding to the compression scheme used for compressing the block, col. 3, lines 39-53)

As per independent claim 14, a color image element encoding format comprising: an indicator field indicating whether . . . said format is capable of encoding semi-transparency; (Morein discloses the invention is applicable to data which can be broken up into blocks and compressed using various variable and fixed-length compression schemes and data relating to display frame generation, col. 2, lines 58-67) and at least one variable sized field encoding further information concerning said color image element . . . having a first length if said indicator field indicates said format . . . is incapable . . . and a second length . . . if said indicator field . . . is capable . . .

However, it is noted that Morein fails to disclose encoding semi-transparency. Morein discloses dependent on the number of bits used to encode each compression descriptor a variety of compression schemes and variable data set sizes may be supported, col. 6, lines 65 – col. 7, line 15. It would have been obvious to one of ordinary skill in the art at the time of the invention to include in the various compression schemes and data set sized transparent data, because Morein discloses the various compression schemes may be used for data which relate to display frame generation and transparent data is data known to be related to display frame generation.

With respect to dependent claim 16, format includes a multi-bit alpha field if said indicator field indicates said format instance is capable . . . (Morein discloses the encoded compression descriptor may include K bits, col. 9, lines 3-24)

With respect to dependent claim 17, color image element encoding format encodes texels. (Morein discloses compressing texel blocks, col. 3, lines 5-20)

As per independent claim 18, it is rejected based upon similar rational as above independent claim 14.

With respect to dependent claim 19, image element comprises a texel. (Morein discloses compressing texel blocks, col. 3, lines 5-20)

With respect to dependent claim 20, step (c) comprises encoding color of said image element at higher resolution through use of said plural bits. (Morein discloses dependent on the number of bits used to encode each compression descriptor a variety of compression schemes and variable data set sizes may be supported, col. 6, lines 65 – col. 7, line 15)

As per independent claim 21, an alpha component converter that converts between first and second resolutions of semi-transparency information . . . quantizing or dequantizing first resolution semi-transparency information into a predetermined number of equal sized steps . . . (Morein discloses the compression scheme of each data block produces a data set corresponding to that data block that is of a size that is included in a set of predetermined sizes corresponding to the compression scheme used for compressing the block, col. 3, lines 39-53)



However, it is noted that Morein fails to disclose encoding semi-transparency. Morein discloses dependent on the number of bits used to encode each compression descriptor a variety of compression schemes and variable data set sizes may be supported, col. 6, lines 65 – col. 7, line 15. It would have been obvious to one of ordinary skill in the art at the time of the invention to include in the various compression schemes and data set sized transparent data, because Morein discloses the various compression schemes may be used for data which relate to display frame generation and transparent data is data known to be related to display frame generation.

With respect to dependent claim 22, the number of equal sized steps is eight. (Morein discloses a data set corresponding to that data block that is of a size that is included in a set of predetermined sizes corresponding to the compression scheme used for compressing the block, col. 3, lines 39-53)

### ***Response to Arguments***

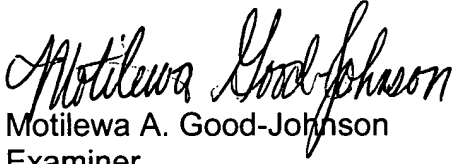
6. Applicant's arguments with respect to claims 1, 2, 5-14, and 16-22 have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Motilewa A. Good-Johnson whose telephone number is (703) 305-3939. The examiner can normally be reached on Monday - Friday 8:30 AM - 5:00 PM.

Art Unit: 2672

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mike Razavi can be reached on (703) 305-4713. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9314 for regular communications and (703) 872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 306-0377.

  
Motilewa A. Good-Johnson  
Examiner  
Art Unit 2672

mgj  
July 22, 2003